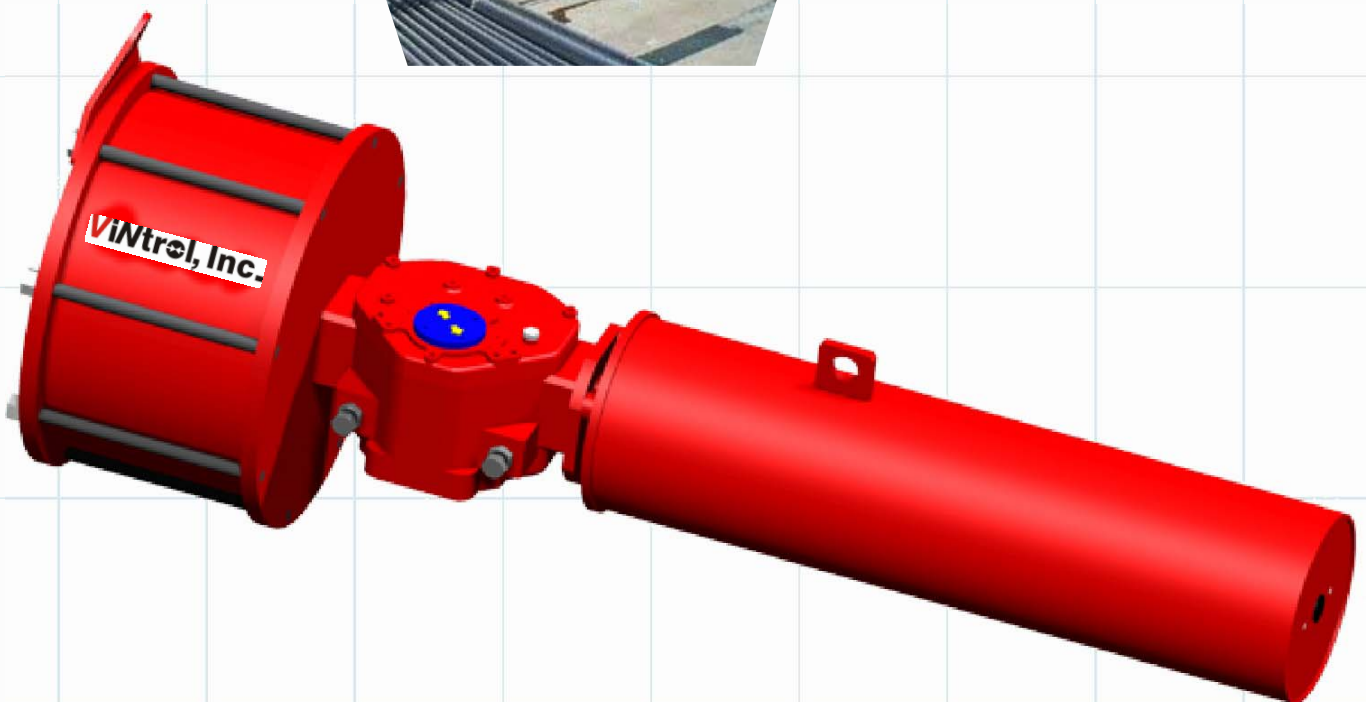
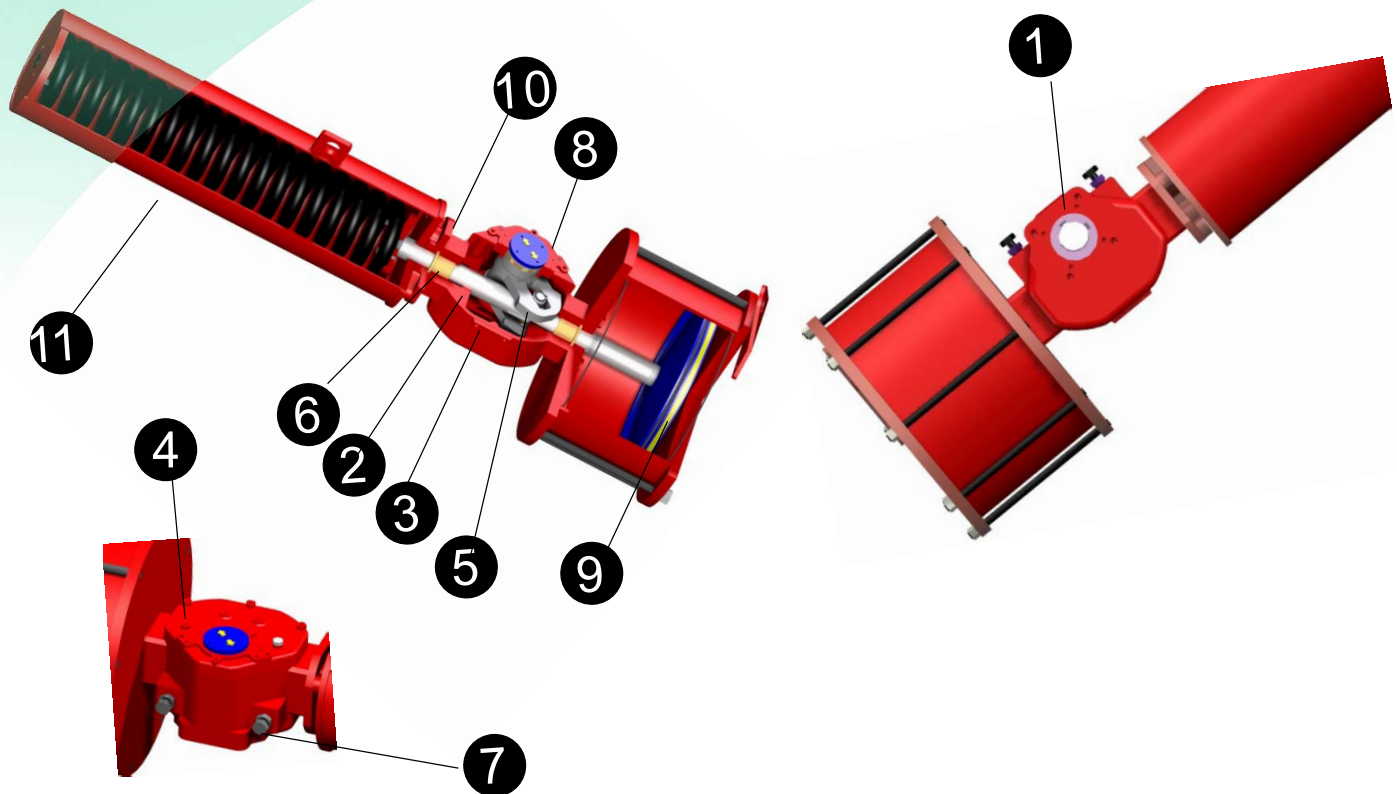


ViNtrol, Inc.



Heavy Duty Scotch Yoke Actuator Series 21

Features & Constructional Details

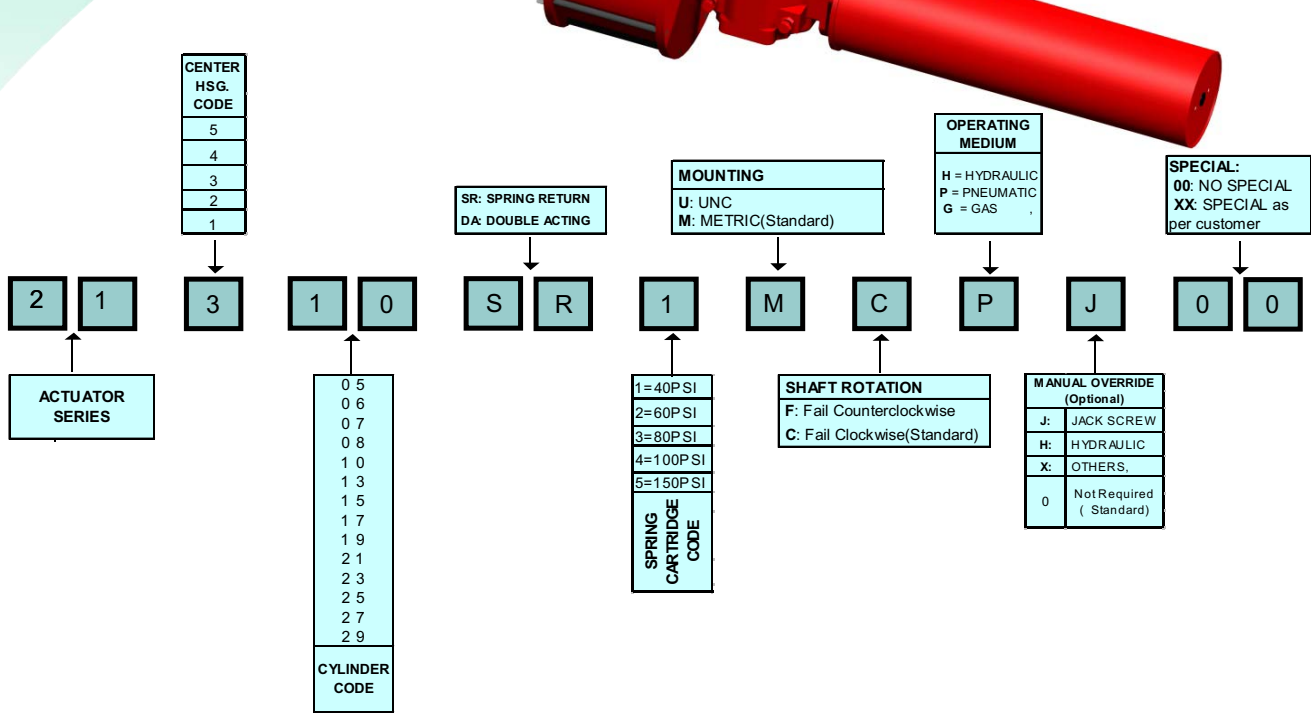


Model S2,S3

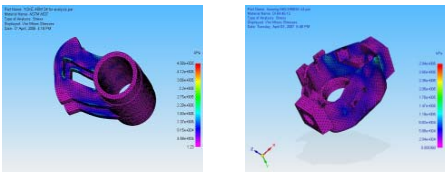
• **Torque Range: 5310 To 88,508 lbf-in**

1. Mounting Flange Details : (EN ISO 5211):F1 4/1 6/25.
 2. Integral guide in housing for piston rod.
 3. Totally encapsulated, weather proof cast housing in SG Iron/Cast Steel/Stainless Steel.
 4. Easily removable housing top cover for inspection.
 5. Symmetric scotch yoke
 6. Internal piston bearing ensures perfect alignment under all loading conditions.
 7. Stroke adjustment bolt in housing away from pressure chamber for safety, easy and precise angular stroke
 8. Standard mounting pads for all controls accessories.
 9. Guide band and O-ring seal on piston provide low hysteresis and high sensitivity.
 10. Interchanging of spring module and cylinder is possible due to modular construction.
 11. Inherently safe , spring module to provide fail safe operation. The spring pack incorporates up to 2 springs for high torque, fully encapsulated in a factory welded cartridge; this ensures safety to personnel & simplifies assembly.
- Available with jack screw & compact hydraulic manual override.
 - Actuators available for extreme ambient temperatures -30 deg to 100 deg Celsius
 - Supply medium: air, nitrogen, sweet gas.
 - Standard supply pressure: 150 PSI std. / 175 PSI on request.

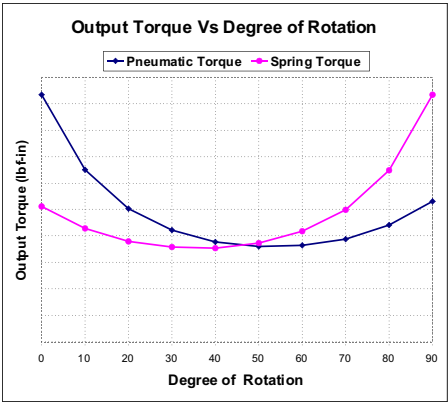
Ordering Code



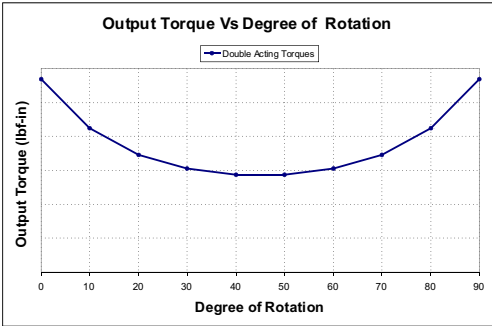
Each Component is critically analyzed for economical & reliable product using latest FEA tools.



Torque Characteristic of Scotch Yoke Actuator.



SPRING RETURN ACTUATOR



DOUBLE ACTING ACTUATOR

Torque Data S2 Spring Return

ACT. MODELS 21 2XXSRXXXXXX		SPRING TORQUE (lbs-in)	PNEUMATIC TORQUE WITH SUPPLY PRESSURE(lbs-in)									
			40 PSI	50 PSI	60 PSI	65 PSI	70 PSI	80 PSI	90 PSI	100 PSI	125 PSI	150 PSI
208 SR 40	BREAK	5552	5464	7478	8916	10354	11792	13230	14668	-	-	-
	RUN	2065	2053	3059	3778	4497	5216	5935	6654	-	-	-
	END	2708	2746	4759	6197	7635	9074	10512	11950	-	-	-
208 SR 60	BREAK	7764	-	6269	7708	9146	10584	12022	13460	-	-	-
	RUN	2934	-	2229	2948	3667	4386	5105	5824	-	-	-
	END	3972	-	2645	4083	5521	6959	8397	9835	-	-	-
208 SR 80	BREAK	10391	-	-	-	7411	8849	10287	11725	14601	-	-
	RUN	4044	-	-	-	2605	3324	4043	4762	6200	-	-
	END	5787	-	-	-	3010	4448	5886	7324	10200	-	-
208 SR 100	BREAK	13361	-	-	-	-	7563	9001	10440	13316	17630	-
	RUN	5123	-	-	-	-	2293	3012	3731	5169	7326	-
	END	7132	-	-	-	-	1609	3047	4485	7361	11676	-
208 SR 150	BREAK	18778	-	-	-	-	-	-	-	10209	14523	19413
	RUN	7290	-	-	-	-	-	-	-	3098	5255	7700
	END	10382	-	-	-	-	-	-	-	2184	6498	11387
210 SR 40	BREAK	8576	8514	11721	14011	16303	18593	20888	23175	-	-	-
	RUN	3273	3286	4890	6036	7181	8326	9470	10617	-	-	-
	END	4514	4631	7838	10125	12419	14710	17002	19292	-	-	-
210 SR 60	BREAK	12278	6789	9995	12286	14577	16868	19162	21449	26030	-	-
	RUN	4649	1974	3574	4719	5865	7010	8152	9301	11594	-	-
	END	6319	1089	4300	6590	8881	11172	13462	15754	20339	-	-
210 SR 80	BREAK	16521	-	-	9700	11945	14236	16526	18817	23446	-	-
	RUN	6398	-	-	3036	4193	5338	6483	7629	9913	-	-
	END	9073	-	-	2452	4825	7116	9407	11698	16197	-	-
210 SR 100	BREAK	21306	-	-	-	-	12121	14412	16703	21285	28157	35030
	RUN	8148	-	-	-	-	3666	4811	5957	8248	11684	15120
	END	11285	-	-	-	-	2543	4833	7124	11706	18578	25451
210 SR 150	BREAK	30649	-	-	-	-	-	-	-	16366	23238	30111
	RUN	11770	-	-	-	-	-	-	-	4785	8221	11658
	END	16431	-	-	-	-	-	-	-	2774	9647	16519
213 SR 40	BREAK	14715	14849	20426	24409	28393	32376	36360	29297	-	-	-
	RUN	5597	5713	8502	10494	12485	14477	16469	18461	-	-	-
	END	7674	8004	13581	17565	21548	25532	29515	33499	-	-	-
213 SR 60	BREAK	21306	-	16916	20899	24883	28866	32850	26358	44800	-	-
	RUN	8148	-	6023	8015	10006	11998	13990	15982	19965	-	-
	END	11285	-	7176	11159	15143	19126	23110	27093	35060	-	-
213 SR 80	BREAK	28438	-	-	-	21110	25093	29079	23194	41027	-	-
	RUN	11126	-	-	-	7330	9322	11313	13305	17289	-	-
	END	15167	-	-	-	8210	12194	16177	20161	28128	-	-
213 SR 100	BREAK	36111	-	-	-	-	21408	25391	29375	36464	49292	-
	RUN	13993	-	-	-	-	6031	8023	10015	14283	19973	-
	END	19861	-	-	-	-	2717	6700	10684	20669	30601	-
213 SR 150	BREAK	51729	-	-	-	-	-	-	-	28128	40078	-
	RUN	20042	-	-	-	-	-	-	-	8404	14379	-
	END	28438	-	-	-	-	-	-	-	5488	17439	-
215 SR 40	BREAK	18778	18960	26222	31410	36598	41785	46973	52161	-	-	-
	RUN	7290	7440	11071	13665	16259	18852	21446	24040	-	-	-
	END	10382	10799	18062	23249	28437	33625	38812	44000	-	-	-
215 SR 60	BREAK	28438	-	21835	26759	32210	37398	42586	47773	-	-	-
	RUN	10901	-	8087	10155	13275	15869	18463	21057	-	-	-
	END	15167	-	10515	13860	20890	26078	31266	36453	-	-	-
215 SR 100	BREAK	45365	-	-	-	-	-	26605	36980	47355	-	-
	RUN	17841	-	-	-	-	-	8597	13784	18972	-	-
	END	26000	-	-	-	-	-	7782	18157	28533	-	-
217 SR 40	BREAK	23653	24055	33184	39704	46225	-	-	-	-	-	-
	RUN	9118	9395	13959	17220	20480	-	-	-	-	-	-
	END	12819	13525	22654	29174	35695	-	-	-	-	-	-
217 SR 60	BREAK	32681	-	26778	33298	39819	46340	-	-	-	-	-
	RUN	13023	-	10164	13424	16685	19945	-	-	-	-	-
	END	19410	-	13879	20399	26920	33440	-	-	-	-	-
217SR 80	BREAK	45365	-	-	-	33413	39934	46454	-	-	-	-
	RUN	17841	-	-	-	12001	15261	18522	-	-	-	-
	END	26000	-	-	-	14591	21111	27632	-	-	-	-

Double Acting Torque Data

ACT. MODELS 21 2XXDAXXXXXXX	POSITION	PNEUMATIC TORQUE WITH SUPPLY PRESSURE (lbs-in)									
		40 PSI	50 PSI	60 PSI	65 PSI	75 PSI	80 PSI	90 PSI	100 PSI	125 PSI	150 PSI
208	BREAK / END	7,734	9,865	11,274	12,684	14,093	15,502	17,259	19,689	23,940	28,710
	RUN	3,867	4,933	5,637	6,342	7,047	7,751	8,629	9,845	11,970	14,355
210	BREAK / END	12,572	15,715	17,960	20,205	22,450	24,695	27,490	31,430	38,165	44,900
	RUN	6,286	7,858	8,980	10,103	11,225	12,348	13,745	15,715	19,083	22,450
213	BREAK / END	21,499	26,874	30,713	34,552	38,391	42,230	47,006	-	-	-
	RUN	10,749	13,437	15,356	17,276	19,195	21,115	23,503	-	-	-
215	BREAK / END	27,998	34,997	39,997	44,996	-	-	-	-	-	-
	RUN	13,999	17,499	19,998	22,498	-	-	-	-	-	-
217	BREAK / END	35,191	43,989	50,274	-	-	-	-	-	-	-
	RUN	17,596	21,995	25,137	-	-	-	-	-	-	-
219	BREAK / END	46,471	-	-	-	-	-	-	-	-	-
	RUN	23,235	-	-	-	-	-	-	-	-	-

ACT. MODELS 21 3XXDAXXXXXXX	POSITION	PNEUMATIC TORQUE WITH SUPPLY PRESSURE (lbs-in)									
		40 PSI	50 PSI	60 PSI	65 PSI	75 PSI	80 PSI	90 PSI	100 PSI	125 PSI	150 PSI
315	BREAK / END	29,710	37,138	42,444	47,749	53,054	58,360	64,965	73,215	90,192	-
	RUN	14,855	18,569	21,222	23,874	26,527	29,180	32,482	36,608	45,096	-
317	BREAK / END	37,365	46,706	53,379	60,051	66,724	73,396	81,701	92,078	-	-
	RUN	18,683	23,353	26,689	30,026	33,362	36,698	40,851	46,039	-	-
319	BREAK / END	46,471	58,088	66,387	74,685	82,983	91,282	-	-	-	-
	RUN	23,235	29,044	33,193	37,342	41,492	45,641	-	-	-	-
321	BREAK / END	56,568	70,710	80,811	90,913	-	-	-	-	-	-
	RUN	28,284	35,355	40,406	45,456	-	-	-	-	-	-
323	BREAK / END	67,657	84,571	96,653	-	-	-	-	-	-	-
	RUN	33,829	42,286	48,326	-	-	-	-	-	-	-
325	BREAK / END	79,738	99,673	-	-	-	-	-	-	-	-
	RUN	39,869	49,836	-	-	-	-	-	-	-	-

Important note:

Due to Vintrol's continuing commitment to engineered product advancement, the product specifications and the data Presented in this publication are subject to change without notice.

* Valve Torque requirements must not exceed the maximum allowable S2 body center torque = 5500 Nm. (48700 lb inch)

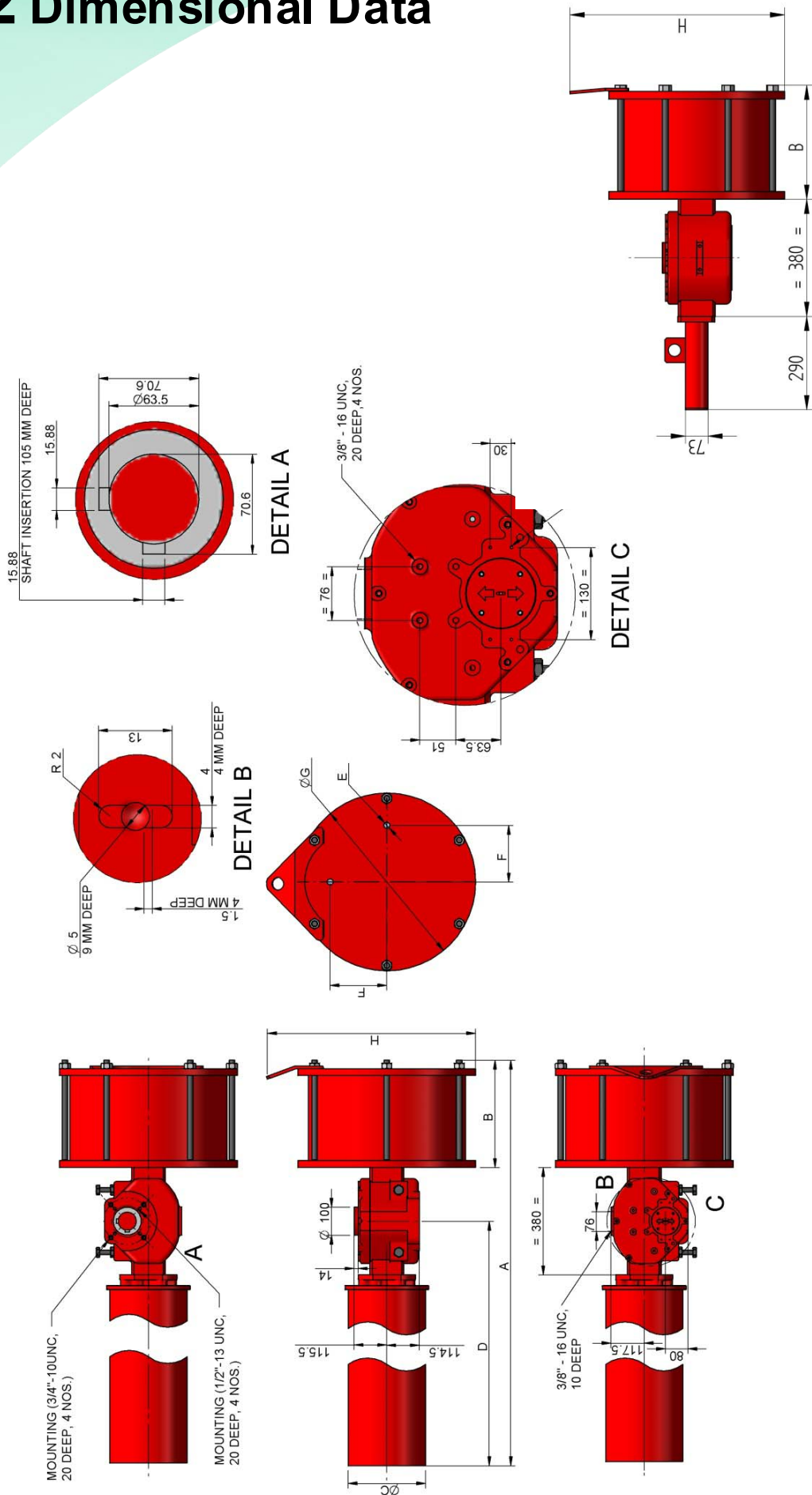
* Valve Torque requirements must not exceed the maximum allowable S3 body center torque = 10000 Nm. (88500 lb inch)

The output torque of actuator may vary by $\pm 5\%$ of the above values.

Torque Data S3 Spring Return

ACT. MODELS 21 3XXSRXXXXXX		SPRING TORQUE (lbs-in)	PNEUMATIC TORQUE WITH SUPPLY PRESSURE(lbs-in)									
			40 PSI	50 PSI	60 PSI	65 PSI	70 PSI	80 PSI	90 PSI	100 PSI	125 PSI	150 PSI
315 SR 150	BREAK	72,929	-	-	-	-	-	-	-	33,163	50,141	72,148
	RUN	27,669	-	-	-	-	-	-	-	8,788	17,276	27,667
	END	37,748	-	-	-	-	-	-	-	1,988	18,965	38,519
317 SR 100	BREAK	59,840	-	-	-	-	34,493	41,165	48,814	59,848	81,199	103,885
	RUN	23,390	-	-	-	-	11,004	14,340	18,037	23,681	34,357	45,700
	END	33,718	-	-	-	-	9,523	16,196	23,335	34,878	56,230	78,916
317 SR 150	BREAK	86,443	-	-	-	-	-	-	-	43,780	64,311	86,124
	RUN	33,785	-	-	-	-	-	-	-	13,217	23,482	34,388
	END	48,695	-	-	-	-	-	-	-	9,086	29,616	51,429
319 SR 40	BREAK	30,680	30,711	42,329	50,627	58,926	67,224	75,522	85,531	-	-	-
	RUN	11,792	11,964	17,773	21,922	26,071	30,220	34,369	39,305	-	-	-
	END	16,486	17,144	28,762	37,060	45,359	53,657	61,955	71,687	-	-	-
319 SR 60	BREAK	44,052	-	34,454	42,752	51,051	59,349	67,647	77,496	90,883	-	-
	RUN	17,194	-	12,608	16,758	20,907	25,056	29,205	34,035	40,823	-	-
	END	24,725	-	15,980	24,278	32,576	40,875	49,173	58,644	72,408	-	-
319SR 80	BREAK	59,840	-	-	-	42,454	50,752	59,051	68,723	82,286	-	-
	RUN	23,390	-	-	-	14,985	19,134	23,283	27,992	34,901	-	-
	END	33,718	-	-	-	17,485	25,783	34,081	43,245	57,317	-	-
319 SR 100	BREAK	74,515	-	-	-	-	42,931	51,230	60,743	74,465	101,020	-
	RUN	29,104	-	-	-	-	13,672	17,821	22,418	29,439	42,716	-
	END	41,900	-	-	-	-	11,756	20,054	28,931	43,289	69,844	-
321 SR 40	BREAK	36,616	36,722	50,937	61,038	71,139	81,241	91,342	-	-	-	-
	RUN	14,344	14,573	21,716	26,766	31,817	36,868	41,918	-	-	-	-
	END	20,761	21,568	35,926	46,028	56,129	66,230	76,332	-	-	-	-
321 SR 60	BREAK	52,432	28,243	42,385	52,486	62,588	72,689	82,791	-	-	-	-
	RUN	20,516	8,673	15,744	20,650	25,845	30,896	35,947	-	-	-	-
	END	29,632	6,449	20,591	30,115	40,794	50,895	60,997	-	-	-	-
321 SR 80	BREAK	74,515	-	-	40,759	50,861	60,962	71,064	82,821	99,348	-	-
	RUN	29,104	-	-	12,586	17,637	22,687	27,738	33,458	41,880	-	-
	END	41,900	-	-	9,584	19,685	29,787	39,888	51,010	68,172	-	-
321 SR 100	BREAK	91,577	-	-	-	-	54,467	64,569	73,985	90,688	-	-
	RUN	35,634	-	-	-	-	18,213	23,264	27,088	35,638	-	-
	END	50,960	-	-	-	-	18,385	28,486	34,368	51,863	-	-
323 SR 40	BREAK	44,052	44,023	60,937	73,019	85,100	97,182	-	-	-	-	-
	RUN	17,194	17,393	25,850	31,891	37,932	43,972	-	-	-	-	-
	END	24,725	25,549	42,463	54,544	66,626	78,708	-	-	-	-	-
323 SR 60	BREAK	59,840	-	52,340	64,422	76,504	88,585	100,667	-	-	-	-
	RUN	23,390	-	19,928	25,969	32,010	38,050	44,091	-	-	-	-
	END	33,718	-	27,371	39,453	51,534	63,616	75,698	-	-	-	-
323SR 80	BREAK	86,443	-	-	-	62,188	74,269	86,351	-	-	-	-
	RUN	33,785	-	-	-	22,073	28,114	34,155	-	-	-	-
	END	48,695	-	-	-	26,105	38,187	50,268	-	-	-	-
325 SR 40	BREAK	53,036	51,413	71,348	85,587	99,826	-	-	-	-	-	-
	RUN	20,667	20,114	30,225	37,345	44,464	-	-	-	-	-	-
	END	29,632	29,042	49,554	63,793	78,032	-	-	-	-	-	-
325 SR 60	BREAK	74,515	-	59,621	73,860	88,099	102,338	-	-	-	-	-
	RUN	29,104	-	22,017	29,136	36,255	43,375	-	-	-	-	-
	END	41,900	-	28,445	42,684	56,923	71,162	-	-	-	-	-

S2 Dimensional Data

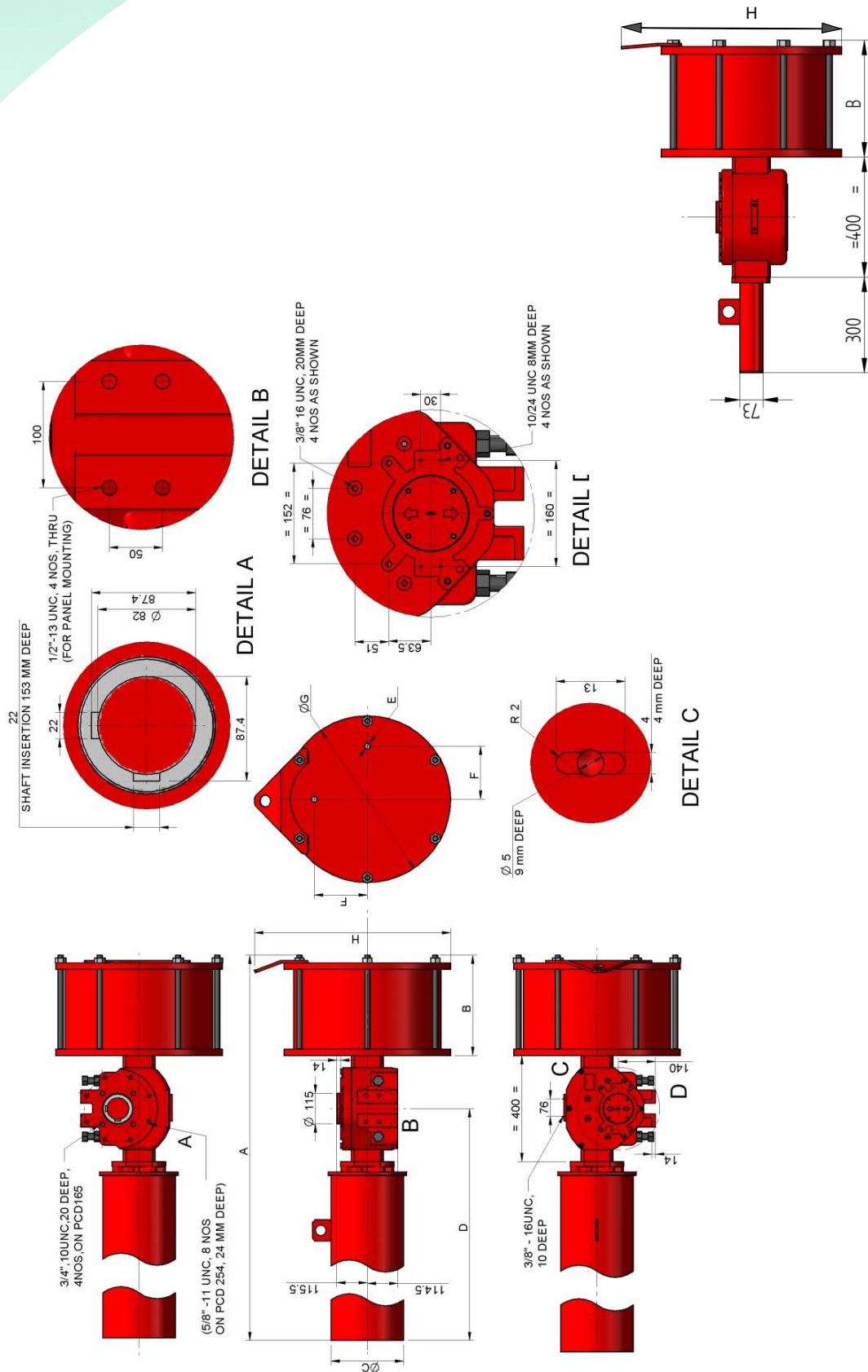


S2 Dimensional Data

DIMENSIONAL TABLE

MODEL 21-2XXSRXX XXXXX	A (mm)	A" (inch)	B (mm)	B" (inch)	C (mm)	C" (inch)	D (mm)	D" (inch)	E NPT	F (mm)	G" (inch)	H (mm)	H" (inch)	WT (kg)	WT (lbf)	swept volume (Litres)	swept volume (US gallons)
208 SR 40	1255	49	330	13	168	7	735	29	1/2"	80	10	410	16	157	346	5.0	1.3
208 SR 60	1229	48	330	13	168	7	709	28	1/2"	80	10	410	16	160	352	5.0	1.3
208 SR 80	1200	47	330	13	273	11	680	27	1/2"	80	10	410	16	171	377	5.0	1.3
208 SR 100	1216	48	330	13	273	11	696	27	1/2"	80	10	410	16	175	386	5.0	1.3
208 SR 150	1561	61	330	13	323	13	1041	41	1/2"	80	10	410	16	226	496	5.0	1.3
210 SR 40	1211	48	336	13	219	9	685	27	1/2"	110	13	468	18	164	360	8.0	2.1
210 SR 60	1240	49	336	13	219	9	714	28	1/2"	110	13	468	18	183	402	8.0	2.1
210 SR 80	1204	47	336	13	323	13	678	27	1/2"	110	13	468	18	198	437	8.0	2.1
210 SR 100	1215	48	336	13	323	13	689	27	1/2"	110	13	468	18	207	456	8.0	2.1
210 SR 150	1567	62	336	13	219	9	1041	41	1/2"	110	13	468	18	235	516	8.0	2.1
213 SR 40	1199	47	340	13	273	11	669	26	1/2"	150	16	548	22	218	481	13.6	3.6
213 SR 60	1219	48	340	13	323	13	689	27	1/2"	150	16	548	22	245	539	13.6	3.6
213 SR 80	1565	62	340	13	219	9	1035	41	1/2"	150	16	548	22	282	620	13.6	3.6
213 SR 100	1675	66	340	13	219	9	1145	45	1/2"	150	16	548	22	294	646	13.6	3.6
213 SR 150	1794	71	340	13	273	11	1264	50	1/2"	150	16	548	22	323	711	13.6	3.6
215 SR 40	1208	48	354	14	323	13	664	26	1/2"	170	18	599	24	257	565	17.8	4.7
215 SR 60	1579	62	354	14	219	9	1035	41	1/2"	170	18	599	24	319	702	17.8	4.7
215 SR 80	1689	66	354	14	219	9	1145	45	1/2"	170	18	599	24	331	727	17.8	4.7
215 SR 100	1749	69	354	14	273	11	1205	47	1/2"	170	18	599	24	361	794	17.8	4.7
217 SR 40	1223	48	358	14	355	14	675	27	1/2"	190	20	645	25	321	707	22.3	5.9
217 SR 60	1667	66	358	14	273	11	1119	44	1/2"	190	20	645	25	392	862	22.3	5.9
217 SR 80	1753	69	358	14	273	11	1205	47	1/2"	190	20	645	25	414	912	22.3	5.9

S3 Dimensional Data

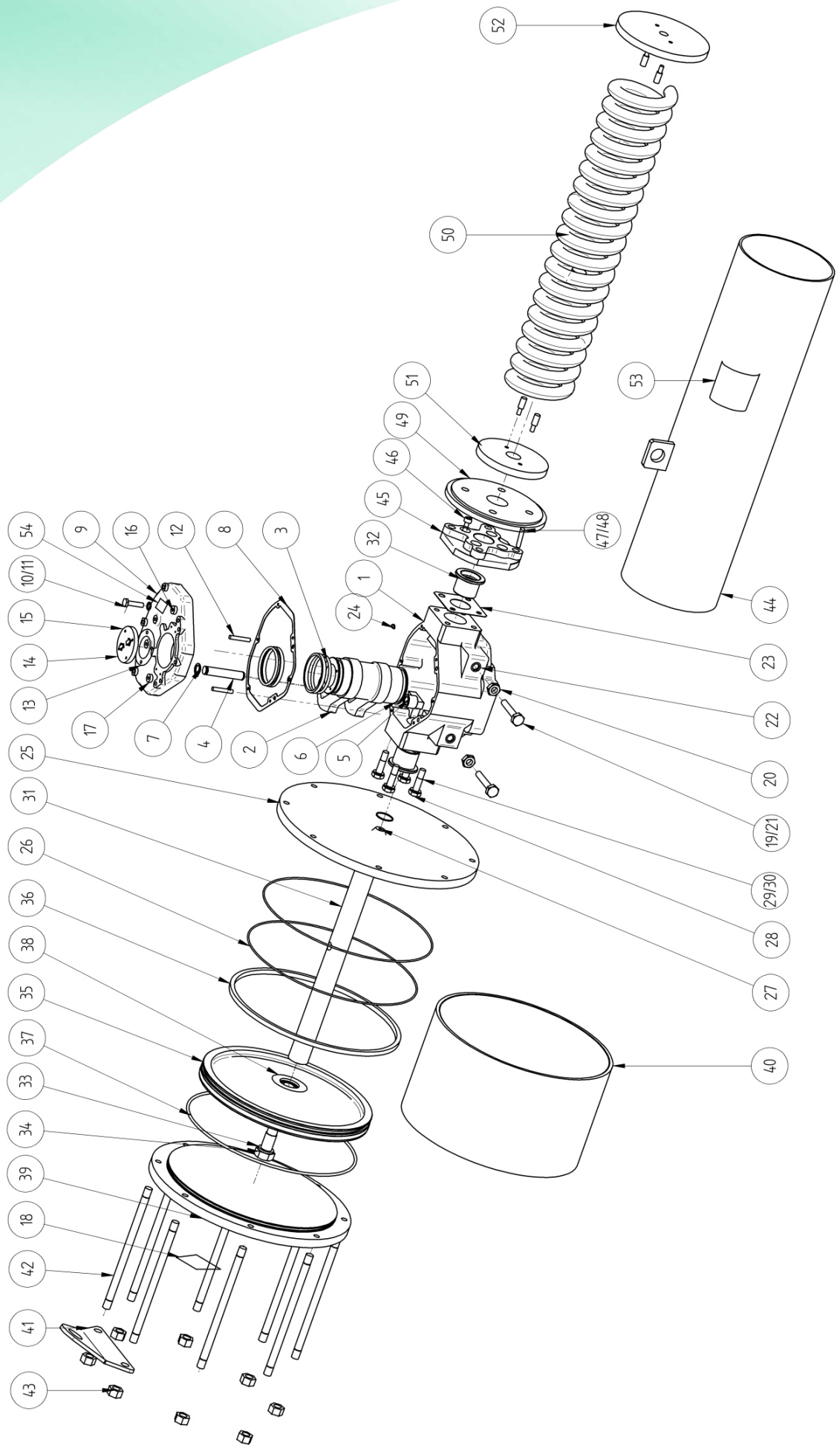


S3 Dimensional Data

DIMENSIONAL TABLE

MODEL 21-3XXSRXXXXXX	A (mm)	A" (inch)	B (mm)	B" (inch)	C (mm)	C" (inch)	D (mm)	D" (inch)	E NPT	F (mm)	F" (inch)	G (mm)	G" (inch)	H (mm)	H" (inch)	WT (kg)	WT (lbf)	swept volume (Litres)	swept volume (US gallons)
315 SR 150	1673	66	364	14	273	11	1109	44	1/2"	170	7	463	18	599	24	397	873	19.0	5.0
317 SR 100	1534	60	368	14	273	11	966	38	1/2"	190	7	520	20	645	25	435	956	23.8	6.3
317 SR 150	1613	63	368	14	323	13	1045	41	1/2"	190	7	520	20	645	25	480	1056	23.8	6.3
319 SR 40	1460	57	382	15	219	9	878	35	3/4"	210	8	570	22	695	27	407	896	29.6	7.8
319 SR 60	1516	60	382	15	219	9	934	37	3/4"	210	8	570	22	695	27	438	964	29.6	7.8
319 SR 80	1548	61	382	15	273	11	966	38	3/4"	210	8	570	22	695	27	483	1063	29.6	7.8
319 SR 100	1539	61	382	15	273	11	957	38	3/4"	210	8	570	22	695	27	508	1119	29.6	7.8
321 SR 40	1526	60	390	15	219	9	936	37	3/4"	430	17	628	25	800	31	478	1051	36.0	9.5
321 SR 60	1630	64	390	15	219	9	1040	41	3/4"	430	17	628	25	800	31	520	1145	36.0	9.5
321 SR 80	1547	61	390	15	273	11	957	38	3/4"	430	17	628	25	800	31	569	1251	36.0	9.5
321 SR 100	1574	62	390	15	323	13	984	39	3/4"	430	17	628	25	800	31	610	1341	36.0	9.5
323 SR 40	1537	61	403	16	219	9	934	37	1"	450	18	670	26	758	30	552	1214	43.0	11.4
323 SR 60	1569	62	403	16	273	11	966	38	1"	450	18	670	26	758	30	596	1310	43.0	11.4
323 SR 80	1648	65	403	16	323	13	1045	41	1"	450	18	670	26	758	30	670	1473	43.0	11.4
325 SR 40	1647	65	407	16	219	9	1040	41	1"	480	19	728	29	913	36	653	1436	50.7	13.4
325 SR 60	1564	62	407	16	273	11	957	38	1"	480	19	728	29	913	36	701	1543	50.7	13.4

Exploded View S2,S3



Bill of Material of S2,S3

S2,S3 BILL OF MATERIAL

CENTRAL HOUSING ASSEMBLY			
SR NO	Title	Material	Quantity
1	BOTTOM HOUSING	DUCTILE IRON / STEEL	1
2	YOKE	DUCTILE IRON / STEEL	1
3	YOKE BEARING #	PHOSPHOR BRONZE / STEEL +PTFE	2
4	YOKE PIN	CARBON STEEL INDUCTION HARDENING	1
5	YOKE PIN ROLLER. #	PHOSPHOR BRONZE	2
6	YOKE O RING *	NITRILE	2
7	CIRCLIP #	SPRING STEEL	1
8	GASKET (HOUSING TOP) *	CAF	1
9	HOUSING TOP COVER	DUCTILE IRON / STEEL	1
10	HEX HEAD BOLT (TOP COVER)	ALLOY STEEL	6
11	WASHER	ALLOY STEEL	6
12	DOWEL PIN #	ALLOY STEEL	2
13	INDICATION PLATE GASKET *	CAF	1
14	INDICATION PLATE	MS	1
15	INDICATION PLATE BOLT	HTS	4
16	GREASING PLUG	ALLOY STEEL	1
17	PRESSURE RELIEF VALVE	MS	1
18	PRESSURE PLATE	MS	1
19	STROKE ADJUSTMENT BOLT	ALLOY STEEL	2
20	STROKE ADJUSTMENT NUT	ALLOY STEEL	2
21	STROKE ADJUSTMENT WASHER	ALLOY STEEL	2
22	STROKE ADJUSTMENT BOLT O RING*	NITRILE	2
23	GASKET (HOUSING SIDE) *	CAF	2
24	DRAIN PLUG	MS	1
PNEUMATIC CYLINDER ASSEMBLY			
25	ADAPTOR PLATE	MS	1
26	O RING ENDCAP/ADAPTOR PLATE*	NITRILE	2
27	O RING ADAPTOR (PISTON ROD) *	NITRILE	1
28	O RING ADAPTOR (SCREW) *	NBR	4
29	ADAPTOR & HOUSING BOLT	ALLOY STEEL	4
30	ADAPTOR & HOUSING BOLT WASHER	ALLOY STEEL	4
31	PISTON ROD	CARBON STEEL CROME PLATED	1
32	PISTON ROD BRG #	PHOSPHOR BRONZE / STEEL +PTFE	2
33	PISTON BOLT	HTS	1
34	SPRING WASHER (PISTON)	SPRING STEEL	1
35	PISTON	DUCTILE IRON	1
36	PISTON GUIDE BAND #	BRONZE FILLED TEFLON	1
37	PISTON O RING *	NITRILE	1
38	PISTON O RING ID *	NITRILE	1
39	END PLATE	MS	1
40	CYLINDER	MS	1
41	LIFTING LUG	MS	1
42	TIE ROD $\triangle$	ALLOY STEEL	--
43	TIE ROD NUT $\triangle$	ALLOY STEEL	--
SPRING CARTRIDGE ASSEMBLY			
44	SPRING CARTRIDGE CYLINDER	MS	1
45	SPRING CARTRIDGE MTG FLANGE.	DUCTILE IRON	1
46	SCH.HEAD BOLT (MOUNTING FLANGE)	ALLOY STEEL	4
47	STUD (MOUNTING FLANGE)	ALLOY STEEL	4
48	NUT (MOUNTING FLANGE)	ALLOY STEEL	4
49	SPRING CARTRIDGE MTG PLATE	MS	1
50	SPRING(POWDER COATED)	SPRING STEEL	2
51	SPRING COMP PLATE	MS	1
52	SPRING CARTRIDGE BASE PLATE	MS	1
53	CATION PLATE	SS	1
54	NAME PLATE	SS	1
NOTE:			
#	REPAIR KIT		
*	SEAL KIT		
$\triangle$	QTY VARIES ACCORDING TO SIZE		

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